

# DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS WASHINGTON

## FOURTEENTH CENSUS OF THE UNITED STATES MANUFACTURES: 1919

### CAST-IRON PIPE

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#### EXPLANATION OF TERMS.

Scope of census—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present dua throwing light upon character of ownership, size of establishments, and similar subjects. When use is much of the statistics for these purposes tits imperative that due attention be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wases, cost of production, or profits.

The census did not cover establishments which were dide during the entire year or for which products were valued at less than \$500, or the manufacturing done in educational, electmosynary, and penal institutions.

Period covered.—The returns relate to the calendar year 1919, or the business year which corresponded most nearly to that calendar year, and cover a year's operations, except for establishments which began or discontinued business during the year.

The establishment.—As a rule, the term "establishment" represents a single plant or factory, but in some cases it represents two or more plants which were operated under a common ownership or for which one set of books of account was kept. If, however, the plants construting an establishment as thus defined were not all located within the same city, county, or state, sparate reports were secured in order that the figures for each plant might be included in the statistics for the city, county, or state in which it was located. In some instances separate reports were secured for different indistrible carried on in the same establishment.

Classification by industries.—The establishments were assigned to the seweral classes of industries according to their products of chief value. The products reported for a given industry may thus, on the one hand, include minor products different from those covered by the class designation, and, on the other hand, may not represent the total product covered by this designation, because some products of this class may be made in establishments in which it is not the product of chief value.

Influence of increased prices.—In comparing figures for cost of materials, value of products, and value added by manufacture in 1919 with the corresponding figures for earlier censuses, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures fail to afford an exact measure of the increase in the volume of business.

Persons engaged in the industry.—The following general classes of persons engaged in the manufacturing industries were distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) elerks (including other subordinate salaried employees), and (5) wage carriers.

The number of persons engaged in each industry, segregated by sex, and, in the case of wage curners, also by age (whether under to or 16 and over), was reported for a single representative day. The Eth of December was selected as representing for most industries normal conditions of employment, but where this date did not pertray such conditions, an earlier date was requested.

In the case of employees other than wage earners the number thus reported for the representative date has been treated as equivalent to the average for the year, since the number of employees of this class does not ordinarily vary number from month to month. In the case of wage earners the average has been obtained in the manner explained in the next peragraph.

In addition to the more detailed report by sex and age of the number of wage earners on the representative date, a report was obtained of the number employed on the 15th of each mouth, by sex, without distinction of age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported for the several months by 12. The importance of the Industry as an employer of labor it believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

The number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totally for all industries combined, because in view of the variations of date, such a total is not believed to be significant. It would involve more or less displication of persons working in different industries at different time, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation.

In order to determine as nearly as possible the age distribution of the average numl er of wage earners for an industry, the per cent distribution by age of the wage earners for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage camers for the year to determine the average numbers 16 years and over, and under 16, employed.

Salaries and wages.—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken tocalculate the average annual carnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of whidely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calculate.

late accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Burean's figures for wage earners, as already evplained, are averages based on the number employed on the 15th of each month, and while representing the number according to the pay rolls to whom wages were paid on that date, no doubt represent a larger number than would be required to perform the work in any industry if all were continuously employed during the year.

Prevailing hours of labor.—No attempt was made to ascertain the number of wage carners working a given number of hours jet week. The inquiry called merely for the prevailing practice followed in each establishment. Occasional variations in hours in an establishment from one part of the year to another were disregarded, and no attention was paid to the fact that a few wage earners might have hours differing from these of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

Capital (amount actually invested).—The instructions on the schedule for securing data relating to capital were as follows:

"The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other nuterrises."

These instructions were identical with those employed at the censuses of 1914 and 1949. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

Materials.—The statistics as to cost of materials relate to the materials used during the year, which may be more or less than the materials purchased during the year. The term "materials" covers fuel, rent of power and beat, mill supplies, and containers, as well as materials which form a constituent part of the product.

Rent and taxes.—The taxes include certain Federal taxes and state, county, and local taxes. Under "Federal taxes" there are included the internal revenue tax on manufactures (tobacco, beverages, etc.), excise taxes when included in values reported for products, corporation capital stock tax, and corporation income tax, but not the income tax for individuals and partners.

Value of products.—The amount: given under this heading represent the selling value or price at the factory of all products manufactured during the year, which may differ from the value of the products sold.

Value added by manufacture.—The value of products is not always a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing processes carried on in the industry itself. Another part, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry, from a manufacturing standpoint, is the value created by the manufacturing operations carried on within the industry. This value is calculated by deducting the cost of the materials used from the value of the products. The figure thus obtained is termed in the census reports "value added by manufacture."

Cost of manufacture and profits.—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of depreciation or interest, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

Primary borsepower.—This item represents the total primary power equipment of the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual dally use.

Fuel.—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, fuel oils, gasoline and other volatile oils, and gas, and represent the quantity used during the year. As only the principal kinds of fuel ere shown, comparison as to the total cost of all fuel is impracticable.





#### CAST-IRON PIPE.

#### GENERAL STATISTICS.

General character of the industry. Establishments primarily engaged in the manufacture of east-iron pipe were first segregated as an industry at the census of 1909. Prior thereto they were included with those for foundry and machine-shop products, which included iron foundries not specially provided for.

Comparative summary. Table 1 presents the general statistics for 1949, 1914, and 1909.

Principal states, ranked by value of products. Statistics are presented in Table 2 for the chief factors; Number of establishments; number of wage earners; value of products; and value added by manufacture, for all states for which the statistics can be reported.

Persons engaged in the industry.—The age classification of the average number of wage earners in Table 3 is an estimate obtained by the method described in the "Explanation of terms." Figures for states will be found in Table 12.

Wage earners, by months. The statistics for wage earners in Table 4 show the labor movement in accordance with the industrial conditions existing throughout the year.

Prevailing hours of labor.—Table 5 shows that of the total number of wage earners employed only 3.1 per cent were in establishments where the prevailing hours per week were 48 or fewer in 1909, and 4.4 per cent in 1914.—In 1919 this ratio was 42.4 per cent.—On the other hand, in 1909, 76 per cent were in the 560 hours

per week" group, and in 1914, 64 per cent, whereas in 1919 this group carried but 21.4 per cent.

Size of establishments, by average number of wage earners. Table 6 shows the industry to be one of relatively large units. Only six establishments with 180 wage earners are found in the groups employing 50 wage earners or less in 1919 and nine establishments with 179 wage earners in 1911.

Size of establishments, by value of products. The average value of products per establishment for all classes in 1919 was approximately 8850,000, as compared with 8450,000 in 1914 and 8700,000 in 1909. The increase from 1914 to 1919 was due primarily to enlanced values, and as a result. Table 7, being based upon value of products, shows heavy gains in the higher groups.

Character of ownership. The industry is almost entirely under corporate ownership. Of the 59 establishments, 56 are owned by corporations, and they reported 98.4 per cent of the value of all products.

Number and horsepower of types of prime movers. Table 8 gives the total horsepower reported for the industry. Of the total primary power, 60 per cent was purchased electric power in 1919, as compared with 34.7 per cent in 1914 and 44.9 in 1909.

Fuel consumed. Table 9 shows the consumption of fuel, by kinds and by states. The figures for gas include both manufactured and natural gas.

Table 1. COMPARATIVE SUMMARY 1949, 1914, AND 1909

-											
				PER + F INCRE	NT OF					11 P O 18010	
	1919	1911	1909				1919	1914	1909		
				1914- 1919	1909 1914					1911	1909 1914
Number of establishments	59	59	52			Salaries and wages .	*17,136,610				
Persons engaged Prorugetors and arm	14,777	14,250	12,884	3. 7	3. 2	Salaries			621 Su 6 82 se		
members,	-4	× .	7			Paul for contract work .			5 210		
Salarred employees	1,145	725	649	38.3	11.7	Rent and tave			120,900		
Wage carnets caverage						Cost of materials	25, ch, i 2		15,554,342	FO. 41	Eq.
number:	12,025	12, 107	12,228	0.5		Value of products	0,275,101	20,000,000	2 (15),721		5 0
Primary horsepower		25,864		11.1		Value added by maintain					
Cupital	2, 865, 020 3	\$25,981,070	823,110,318	35.9	In. 7	Ture?	27, 48, 19	10,724,723	13.203, 31		

 $<sup>^3</sup>$  A minure (gra  $^{-}$  ) denote obere (see, . Per cent omitted where base is less than 100,  $99170{\sim}22$ 

#### MANUFACTURES.

#### Table 2.- PRINCIPAL STATES, RANKED BY VALUE OF PRODUCTS, 1919.

* <del>*</del>									
	Number	WAG	E EARNIRS		VALUE	OF PRODUC	TS.		C ADDED BY UFACTURE.
STATE.	of estab- lish- ments,	Average number.	Per cent distubu- tion.	Rank.	Amount (expressed in thou- sands).	Per cent distribu- tion.	Rank.	Amount (expressed in thou- sands).	Per cent distribu- tion.
United States	59	12,625	100.0		\$50, 235	100. 0	l	\$24,849	100.0
Alabama New Jersey. Pennsylvania. New York. All other states.	21 8 7 5 18	5, 2% 2, 035 1, 707 312 3, 2%	41. 9 16. 1 13. 5 2. 5 26. 0	1 2 3 7	18, 784 9, 030 8, 710 1, 342 12, 369	37, 4 18, 0 17, 3 2, 7 24, 6	1 2 3 7	9,323 4,293 4,556 758 5,919	37. 5 1 17. 3 3 18. 4 2 3. 0 7 23. 8

#### Table 3.—PERSONS ENGAGED IN THE INDUSTRY: 1919, 1914, AND 1909.

	Cen-			Fe-	OF T	CENT OTAL		Cen-			Fe-	PER OF TO	
CLASS.	sus year.	Total.	Male.	male	Male.	Fe- male.	CLASS.	year.	Total.	Male.	male.	Male.	Fe- male
All classes	1919 1914 1909	13, 777 13, 290 12, 884	13, 545 13, 190 12, 832	232 100 52	98.3 99.2 99.6	1. 7 0. 8 0. 4	Clerks and other subordinate salaried employees.	1919 1914 1909	725 545 464	549 459 421	176 86 40	75, 7 81, 2 91, 4	24.3 15.3 8.0
Proprietors and officials	1919 1914 1909	427 188 192	423 187 192	1	99, 1 99, 5	0. 9	Wage earners (average number)	1919 1911 1909	12, 625 12, 557 12, 228	12, 573 12, 511 12, 216	52 13 12	99. 6 99. 9 99. 9	0. 0. 0.
Proprietors and firm members	1919 1914 1909	4 8 7	1 8 7		100, 0 100, 0 100, 0		16 years of age and over	1919 1914 1909	12, 588 12, 507 12, 155	12, 536 12, 494 12, 143	52 13 12	99. 6 99. 9 99. 9	0. 0. 0.
Salaried officers of corporations	1919 1914 1909	108 78 61	105 78 61	3	97. 2 100. 0 100. 0	2.8	Under 16 years of age	1919 1911 1909	37 50 73	50	·		
Superintendents and managers,	1919 1914 1909	315 102 124	314 101 121	1	99. 7 99. 0 100. 0	0.3 1.0							

Table 4.--Wage Earners, by Months, for states 1919

[The month of maximum employment for each state is indicated by bold-faced figures and that of minimum employment by italic figures.]

STATE.	Average number em- ployed during year.	January	NUME Febru- ary.	March	April.	May.	OF THE :		August.			November.	Decem- ber.	Per cent mim- mim is of maxi- mum,
United States 1919 Mules Females 1911	12,625 12,573 32 12,557	10,615 10,569 46 11,816	9,924 9,883 41 12,572	9,75; 9,718 35 13,193	10,529 10,491 5 12,701	11, 268 11, 227 41 12, 613	11,482 11,434 48 12,849	13,006 12,960 46 13,221	13,781 13,723 58 13,427	14,525 14,570 55 13,211	15, 478 15, 407 71 12, 555	15, 454 15, 385 69 11, 336	15,585 15,506 79 11,190	62. 6 62. 7 44. 3 83. 3
Alabama	5, 285 2, 035 312 1, 707 3, 286	3,830 1,908 300 1,620 2,957	3,557 1,657 326 1,429 2,961	3,719 1,602 317 1,454 2,661	4,189 1,842 303 1,492 2,703	4,539 1,914 316 1,705 2,794	4,598 2,630 261 1,692 2,901	5,777 2,069 277 1,720 3,163	6,010 2,221 309 1,769 3,472	6, 196 2, 197 314 1, 861 3, 757	6,900 2,330 312 1,950 3,986	6, 863 2, 278 356 1, 923 4, 034	6,948 2,372 353 1,869 4,048	51, 1 67, 5 73, 3 73, 3 65, 8

 $\textbf{Table 5.--AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR STATES 1919 AND 1914 \\$ 

IN FSTABLISHMENTS WHERE THE PREVOLUNG HOLES OF LAROUTE WELK WELK-										IN ESTABLISHMENTS WHERE THE PERVALENCE HOURS OF LABOR PER WEEK WERE					
STATE.	Cen- sus year.	Total.	and under	Be- tween 48 and 54.	54.	Be- tween 54 and 60.	60.	STATE	Cen- Sip- vear.	Total	and under.	Bo- tween 48 and 54.	54.	Be- Iween 54 and 60,	60.
United States	1919 1914	12, 625 12, 557	1,564	440		3, 208 3, 026		New York: .	1919	312	63	65	138	4,3	
	1909	12, 228	378		1, 425	1, 131	9 261	Pennsylvania.	1919 1914	1,707 1,835		130	67.3 101	546 194	358 1,540
Alabanta	1914 1914				1,580 795		1,217 1,986								
New Jersey	1919 1914	2,035 3,421	ļ::	242		741 1,875	504 1,446								
	- Inc	hides 29	of grou	p "Han	d unde	r **		- Figure-	for 1911 is	it availa	lite				

Table 6. -SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, FOR STATES 1919 AND 1914

			-						ESTAI	LISHMEN	T~ EX	PLOYIN:	;					
>TATE.	Cen- sus yeat.	7+	PLAL.	l to 5 wage earners, inclusive.	6311	o 20 ige iers, isive.	e.ir	to 50 age ners, asive	W.	n 100 age ders, isive.	ear	to 250 age ners, usive.	eur:	to 500 age Hers, HSIVe.	ent	o 1,000 age turfs, usive.		r 1,000 age ners
		Estably-by monts	Wage earners (nverage tunnier	Establish- ments — Wage	Establish- ments	Wage	Establish ments	Wage earthert.	Establish ments	Wage	Establish- ments	Wage cumers.	Establish- ments	Wage earmets.	Establish- ments.	Wage eathers.	Establish- ments	Wage
United States	1919 1914	59 59	12,625 12,557	2	1 3	15 39	4	165 132	14 12	961 954	20 18	3,310 2,589	14 14	4,772 4,825	4 6	$\frac{2,255}{3,980}$	1	1,147
Alabama.	1919 1914	21 20	5, 2% 3, 696	1 4	2	31	 1		- 5 3	341 237	8	1, 291 1, 149	6	1,990	1 2	516 1,252	1	1,147
New Jersey	1919 1914	9	2,035 3,421						2	145 100	3	559 516	3	770 1, 206	1 2	561 1,599		
New York 1,	1919	5	312				2	Mi	3	226 .								
Pennsylvania	1919 1914	$\frac{7}{7}$	1,707 1,835	·					$\frac{2}{2}$	123 193	2 2	244 231	2 2	567 562	1	673 549		

1 Figures for 1914 not available.

Table 7.--SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS, 1919, 1914, AND 1909.

A VEUE OF PRODUCT.	ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALU	E OF PRODUCT	s.	VALUE ADDI	D BY MANUE	A+ f1 RE		
	1919	1911	1909	1919	1914	1909	1919	1911	1909	1919	1914	1909		
All classes	59	59	72	12,625	12, 557	12, 228	\$50, 235, 101	\$20, 659, 365	829, 153, 723	824, 848, 549	89, 729, 224	\$10, 269, 381		
Less than \$100,000; \$400,000 to \$500,000; \$500,000 to \$1,000,000; \$1,060,000 and over	3 23 15 18	1 14 27 10 8	1 11 28 13	66 1 1,975 1 2,813 7,771	1550 7, 190 4, 817	4,815 7,100	180, 261 6, 927, 931 10, 368, 067 32, 758, 839	6, 351, 931 7, 675, 640 11, 802, 345	1540, 922 10, 641, 104 17, 971, 697	91, 401 3, 828, 542 ( 5, 480, 965 ) 15, 447, 641	1398,656 5,684,793 3,645,775	5.216, 769 3, 920, 565 6, 102, 047		
							PER CENT D	ISTRIBUTION						
All classes	100.0	100.0	100, 0	100.0	100.0	100, 0	1(0), ()	100, 0	100.0	100, 0	100, 0	100.0		
Less than \$100,000 \$100,000 to \$500,000, \$700,000 to \$1,000,000, \$1,000,000 and over.	5, 1 39 0 25, 4 30, 5	23, 7 45, 7 17, 0 13, 6	21, 2 53, 8 25, 0	0, 5   15, 6   22, 3   61, 5	4. 1 57. 2 38. 4	2, 5 39, 1 58, 1	0, 4 13, 8 20, 6 65, 2	3. t 23. S 28. S 44. 3	1. 9 36. 5 61. 6	$\left\{\begin{array}{c} 0, 4 \\ 15, 4 \\ 22, 1 \\ 62, 1 \end{array}\right\}$	4. 1 58. 4 87. 5	2, 4 38, 2 59, 4		

4 Includes the groups "Less than \$5,000" and "\$5,000 to \$20,000."

#### MANUFACTURES.

 ${\tt Table~8.} {\tt -NUMBER~AND~HORSEPOWER~OF~TYPES~OF~PRIME~MOVERS;~1919,~1914,~AND~1909}.$ 

	NUMBER OF	ENGINES OR	MOTORS.			HORSEPOW	ER.		
POWER.	1919	1914	1909		Amount.		Per c	ent distribu	tion
	1010	1314	1505	1919	1914	1909	1919	1914	1909
Primary power, total .	1,040	589	354	28, 741	25, 864	18, 737	100.0	100, 0	1184.
Owned Steam Engines. Turbines. Internal-combission engines Water wheels and turbines.	92 90 86 4 1	145 135 (1) (1) (1)	162 150 (1) (1)	11, 501 11, 297 10, 547 750 4 200	17, 666 15, 966 (1) (1) (1) 1, 500 200	15, 950 14, 385 (1) (1) 1, 505	40, 0 39, 3 36, 7 2, 6 (2) 0, 7	68, 3 61, 7	\$5. 70.
Rented Electric.	948	444	192	17, 240	8, 198	2,787	60, 0	31, 7	14.
Electric	2, 106	1,616	1, 189	35, 493	28,518	19, 333	100, 0	100, 0	(108)
Rented Generated by establishments reporting	948 1, 158	444 1, 172	192 997	17, 240 18, 253	8, 198 20, 320	2, 787 16, 546	48. 6 51. 4	28.7 71.3	14.

<sup>1</sup> Not reported separately.

Table 9.—FUEL CONSUMED, BY STATES: 1919 AND 1914

		co.	AL.				
STATE.	Cen- sus year.	Anthracite (Ious, 2,240 pounds),	Bituminous (tons, 2,000 [rounds).	Coke dons 2 000 pointeds	Fuel oils (barrels)	Cersolitic and other volatile oils (barrel).	t-as LowLenlac Teet:
United States	1919 1914	27, 374 45, 663	96, 387 99, 991	256, 781 248, 305	410	658	5, 386 163, 83°
Alabama	1919 1914		28,520 25,382	132,314 88,684	1,007		175
New Jersey	1919 1914	16, 751 30, 694	21,067 17,539	32, 255 46, 146	10 692	50	151,013
New York	1919	1406	1,096	1, 601	×	70	
Pennsylvania	1919 1914	9, 799 15, 416	$\frac{15,618}{16,424}$	31,769 38,294	51 270	126	1,335 908
All other states	1919 1914	718 173	30, 086	50,842 75,481	550	412	3, 870 11, 912

<sup>4</sup> Included in figures for fuel oils.

<sup>2</sup> Less than one-tenth of 1 per cent.

#### SPECIAL STATISTICS.

Certain additional information concerning the quantity and value of products for the industry is collected by means of supplemental schedules, data for which are presented in Table 10.

Products comparative statistics, by states. Table 10 presents detailed statistics of products for 1919 and 1914. The table shows distribution by states so far as the figures can be shown without disclosing individual operations. There is a considerable production of east-iron pipe by establishments falling under other industry classifications, which has been included. With respect to 1914, this subsidiary production is included in the totals, but figures are not available to permit a distribution by states.

In 1919 there were 59 establishments in the classified industry, and 7 establishments in other industries reporting cast-iron pipe products. Of these, 18 establishments manufactured bell-and-spigot pipe, 15 flanged pipe, 3 culvert pipe, 22 gas and water pipe fittings, and 40 reported the manufacture of soil and plumbers' pipe and fittings.

The tonnage production of east-iron pipe and fittings was 702,554 tons in 1919 as compared with 1,120,721 tons in 1914, a decrease of 37.3 per cent; but in value these products increased from 825,979,192 in 1914 to 848,514,581 in 1919, an increase of 867 per cent. The figures show an average ton value of 869 for 1919 as compared with 823,20 for 1914. Considering the different kinds of pipe products, there was a decrease of 51.7 per cent for the period 1914-1919 in tonnage of bell-and-spigot pipe, with an increase of 45.5 per cent in value; a decrease of 9.9 per cent in the tonnage of flanged pips, with an increase of 113 per cent in value; a decrease of 48.5 per cent in culvert pipe, with an increase of 39.6 per cent in value; and a slight increase in tonnage of pipe fittings, namely, 1.8 per cent, with an increase of 212 per cent in value. Soil and plumbers' pipe and fittings increased 20.3 per cent in tonnage and 230 per cent in value. The figures show fairly uniform increases in unit values for the various classes, namely, bell-and-spigot pipe 820 per

ton in 1914, to 851 0, 1919; flanged pipe, 827 in 1914, 872 in 1919; soil at 1 plumbers, pipe and fittings, 829 in 1914, and 880 in 1919.

Tyme 10. Products Comercial Statistics by States 109 and 1094

		1919		914
	100 100 100 100 100	N		
T mul		\$51, 802, 7		\$28 1 2 007
Calenton pipe (od a tr.) Subjediar (calento) processor others dustric		0.27 00 1.67 0.2		26 (100 361
Catemore in Let 1.	10.54	18, 46, 581		25,979,192
Garandor tempera d'Ettira. Marena Nel York Tressa Taria esternatio	117, 881 117, 761 8, 764 2, 106 11, 8, 11	28, 121, 128 8, 875, 681 4, 91 + 620 234, 552 5, 102, 831 8, 951, 942	1 maj ana 186, 115 215, 181 876 131, 173 287, 487	119, 805, 181 4, 160, 281 4, 168, 291 43, 875 5, 875, 720
Peland sprotage Alteron New Jere Teet Taria Other time	91 2 1 121 1 1 17 236 11 8 82	1 ( 257, 003 ( 123, 043 ( 4 4, 419 ( 4 0, 357 ( 149, 14	1828,905 170,515 150,434 180,994 2,2543	116,669,533 3,945,013 1,828,138 1,521,563 1,831,983
The code print Annual residence Annual residence (1) residence residence	23,74 7,46 1,85 11,120	1 711, 250 31, 134 370,028 7 6 8 5	121,289 2,054 3,054 3,018 4,011	1706, 531 176, 085 236, 500 140, 506
kul ett. ge		111,002	111,011	1294, 527
Fitter. Viv. min New herev New York Fees. Three that other	- 11 230 17,931 1931 2 180 2 185 11 759	6 808,173 2 183,27 1 676 814 2 4, 172 1, 568,908 1 718,747	141, 8(4) 4, 800 10, 970 876 8, 614 14, 871	7 3, 182, 803 263, 457 383,076 46, 857 420, 967 797, 928
to I and administration of CE CE is Who man New York Lee to I and CE the CE is	2 (4) 7 ( 122, 527 (4 - 1) 18 ( 8) 4 ( 0) 2 (1 1) 3	29 (0), 153 + 39 (77 - 5 420, 117 + 1, 42 (77 + 7 711 2, 1 5 + 12	1.211,652 77,906 18,444 10,806 17,425 30,814	16, 173, 768 2, 161, 644 1, 644, 271 321, 525 501, 826 86, 934
There is the configurated filters of their product	11 101	1,614 105	13,581	1 111.73
Chalude productive cost distribu- tive and varies probused first Pellor deservoir appeared first Ellor deservoir appeared first Sortated plants on Ellor Sortated Sortated plants on Ellor Ellor American deservoir appeared first Laboration of the Montal Authority Laboration of the Montal Authority Laboration of the Montal Authority Prosecution of the Montal Authority Sortated plants or Especial	t trings	1 0 4	28, 631 () 21, 500 () 3, 300 () 1, 324 () 20, 187 ()	a) 74,727

#### GENERAL TABLES.

Table 11 gives, for 1919, 1914, and 1909, a comparative summary, by states, for number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of

products. Table 12 presents, for 1919, the detailed statistics for the industry for such states as can be shown without disclosing the operations of individual establishments.

TABLE 11.- COMPARATIVE SUMMARY, BY STATES 1919, 1914, AND 1909.

							-								
STATE.	SHS	estab- lish-	Wage earners (aver- age num-	Pri- mary horse- power.	Wage	Cost of mate- tials	Value of prod- nets	STATE.	sus year.	estab- lish-	Wage earners (aver- age	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- nets.
		ments	ber).	printi.		xpressed housand				ments	her).			pressed ousands	
United States	1919 1914 1909	59 59 52	12, 625 12, 557 12, 228	25, 861		16, 930	26, 659	New York	1919 1914 1909	5 3 4	312 213 464	767 293 1,052	\$373 124 268	\$585 186 687	\$1,342 370 990
Alabama	1919 1914 1909	21 20 14	5, 285 3, 696 2, 878	10,754 6,130 4,632	5, 776 2, 051 1, 393	9, 461 3, 907 3, 706	18, 784 6, 754 6, 097	Pennsylvania	1949 1944 1909	7 7 5	1, 707 1, 835 1, 435	3,892 4,062 2,531	2,148 1,029 711	4, 154 3, 295 2, 423	8,710 4,551 3,531
New Jersey.	1919 1914 1909	8	2, 035 3, 124 3, 275	3,711 4,785 1,035	2, 655 1, 991 1, 951	1, 737 1, 781 5, 355	9, 030 7, 353 8, 003	All other states	1919 1914 1909	15 20 21	3, 286 3, 392 4, 176	9, 614 10, 594 6, 487	3,753 1,878 2,179	6, 450 4, 758 6, 743	12,369 7,631 10,530

Table 12. DETAILED STATEMENT FOR THE INDUSTRY, BY STATES, 1919.

	PERSONS ENGAGED IN THE INDUSTRY												EARNER T REPRE			EXPENSES.			
cIAIL	Number of establishments	Total	Pro- pric- tors and firm mem- bers.	ried offi-	1111111111		Wage earne		earner	rs			16 and over.		Under 16.		Salaries and wages.		
				super- in- tend-		Fe- male	Average mun- ber.	L <sub>Wa</sub>	mber, 1 xinnini outh	Mir	iv of— imiim gith	Total.	Male	Fe- niale	Male.	Capital.	Officials.	Clerks, etc.	
Linted States	. 59	13,777	1	121	549	176	12, 625	De	15, 585	Mh	9, 733	15, 651	15, 542	72	37	842, 863, 026	\$1,385,506	\$1, 045, 646	
Alabama,	. 21 \$ 5 7 18	5, 767 2, 248 350 1, 859 3, 553	1 2 1	147 07 14 55 110	265 54 11 77 99	60 12 8 10 57	5, 285 2, 035 312 1, 707 3, 286	De No	6,948 2, 672 356 1,950	Mh he		6, 948 2, 372 353 1, 931 1, 047	6, 914 2, 368 352 1, 896 4, 012	18	1 17 19	12, 305, 071 8, 637, 290 1, 145, 231 11, 008, 421 9, 707, 013	499, 709 238, 403 73, 002 191, 280 383, 202	477, 142 171, 945 28, 063 120, 628 248, 498	
				EXPEN	ES C	ation	d.									POWER			

		Rent .	and taxe-	For m	iterials.			Frimary horsepower. Elec-						
Wage earner	For contrac work				Fuel and rent of power.	Value of products	Value indeed by manufac- time	Total	Steam engines not tur- bines)	~leam	Inter- nal- com-	Water	idec-	horse- power gener- ated in estab- lish- ments te- port- ing
	437, 795	520, 782	41, 240, 47	1322,741,770	92,641,773	§50, 235, 101	324, 848, 549	25, 741	10, 547	750	4	200	17, 240	18, 253
5,776,258 2,655,151 -62,939 -,148,481 1,752,566		4, 404	50, 382 406, 601	4, 259, 465 531, 321 587, 182	477,688 54, 440 46, 810	9, 029, 796 1, 342, 422 8, 709, 771	4, 292, 643	10, 754 5, 714 767 5, 802 9, 614					357 2,307	5, 841 4, 637 312 1, 447 6, 016
	Wage Con Wage earner \$14,705, 298 5,770,258 2,055,151 672,000 1,18,18	Wage earner  \$14,705,98 \$37,796  \$770,755 5,413  \$72,990  LES.181	Wages Coli. Rent. Wage earner Port outland work Rent of factory Section 2, 257, 795 Sectory Se	Wage toh.   Rentaled lave	Wage total   Rent and rave   Form	Wage   Contract   Work   Rent of States   Principal   Find and States   Principal   Prin	Wage   Contract   Work   Rent and taxe   For hour hars.   Value of products	Wage   Contract   Work   Rent of State,   Part of State	Wage   Contract   Work   Rent of state   Principal   Principal	Wage   Formal   Francisco   Formal   Francisco   Fra	Wage earner	Wage   Contract   Format   Francis   Format   Francis   Francis	Wage earner	Wage   Carner   Port   Taxes   Principal part   Princip

All other states embrace. Ohio, roest diffehments, Virginia, 3. Maryland, 2, and I each in California, Georgia. Indiana. Ma. achii setts, North Carolina, Oregon, and Tennessee.



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